

sequence, wherein the heterologous nucleic acid sequence encodes a product of therapeutic interest for the treatment of diseases of the nervous system.

2. (Amended) Baculovirus according to claim 1 wherein the heterologous nucleic acid sequence comprises an antisense sequence or a gene:

C¹
3. (Amended) Baculovirus according to claim 2, wherein the heterologous nucleic acid sequence is a gene that encodes a compound selected from the group consisting of a hormone, a lymphokine, a growth factor, an enzyme for synthesizing a neurotransmitter, a trophic factor, a protein involved in the metabolism of an amino acid, a protein involved in the metabolism of a lipid, and a protein involved in the metabolism of a carbohydrate.

4. (Amended) Baculovirus according to claim 3, wherein trophic factor is selected from the group consisting of a neutrophin, a member of the CNTF family, a member of the IGF family, and a member of the FGF family.

C²
6. (Amended) Recombinant baculovirus according to claim 5, wherein said recombinant baculovirus expresses an envelope protein that is foreign to a baculovirus.

7. (Amended) Recombinant baculovirus according to Claim 6, wherein the envelope protein comprises the glycoprotein of the rabies virus or the glycoprotein of VSV (Vesicular Stomatitis Virus).

C³ 9. (Amended) Baculovirus according to claim 1, wherein the promoter sequence is selected from the group consisting of the Neuron Specific Enolase (NSE) promoter sequence, the Neurofilament (NF) promoter sequence, the Tyrosine Hydroxylase (TH) promoter sequence, the Dopamine Transporter (DAT) promoter sequence, the Choline Acetyl Transferase (ChA) promoter sequence, the Dopamine β -Hydroxylase (DBH) promoter sequence, the Tryptophan Hydroxylase (TPH) promoter sequence, the Glutamic Acid Dehydrogenase (GAD) promoter sequence, and the Glial Fibrillary Acidic Protein (GFAP) promoter sequence.

10. (Amended) Recombinant baculovirus according to claim 1, further comprising a signal sequence to induce secretion of specific compartmentalization of the therapeutic product.

16. (Amended) A population of cells of the nervous system, which is infected with the recombinant baculovirus of claim 1.

C⁴ 17. (Amended) An implant comprising human cells infected with a recombinant baculovirus of claim 1.

18. (Amended) A pharmaceutical composition comprising a recombinant baculovirus of claim 1, in combination with a pharmaceutically acceptable vehicle.

Please add the following new Claims:

--23. Baculovirus according to claim 4, wherein the neutrophin is selected from the group consisting of NGH, BDNF, NT3, NT4/5, and NT6; the member of the CNTF family is selected from the group consisting of CNFT, axokine, LIF, IL6, cardiotrophin, and GDNF; the member of the IGF family is selected from the group consisting of IGF-1 and IGF-2; and the member of the FGF family is selected from the group consisting of FGF1, FGF2, FGF3, FGF4, FGF5, FGF6, FGF7, FGF8, FGF9, and TGF- β .

24. The population of claim 16, wherein the cells of the nervous system are selected from the group consisting of: brain cells, spinal cord cells, neural cells, glial cells and ependymal cells.

25. A method for treating a disease of the nervous system in a patient, comprising administering an effective amount of the recombinant baculovirus of claim 1 to the patient.

26. The method of claim 25, wherein the administration is performed stereotaxically.

27. The method of claim 26, wherein the disease of the nervous system is a neurodegenerative disease, a lysosomal disease, or a combination thereof.

28. A method for producing a population of cells of the nervous system which is infected with the recombinant baculovirus of claim 1, comprising contacting the cells with the recombinant baculovirus.

29. The method of Claim 28, wherein the contacting step occurs *ex vivo*.

30. A method for treating a disease of the nervous system in a patient, comprising administering an effective amount of the pharmaceutical composition of claim 18 to the patient.

C⁵ 31. Recombinant baculovirus having a baculovirus envelope protein, comprising a heterologous nucleic acid sequence operatively associated with a promoter sequence, wherein the heterologous nucleic acid is a gene that encodes a therapeutic product selected from the group consisting of a hormone, a lymphokine, a growth factor, an enzyme for synthesizing a neurotransmitter, a trophic factor, a protein involved in the metabolism of an amino acid, a protein involved in the metabolism of a lipid, and a protein involved in the metabolism of a carbohydrate. 31

32. The recombinant baculovirus of Claim 31, wherein said heterologous nucleic acid sequence further comprises a DNA sequence that encodes for a signal sequence to induce secretion of specific compartmentalization of said therapeutic product.